KAMINSKIY, D.L.; KAGANSKIY, M.G.

Sectoral double-focusing beta-spectrometer. Prib.i tekh.eksp. no.1:32-36 Ja-F '59. (MIRA 12:4)

1. Fiziko-tekhnicheskiy institut AN SSSR.
(Spectrometer)

21(8)
AUTHORS: Kaminskiy, D. L., Kaganskiy, M. G. SOV/56-35-4-14/38

TITLE: The Positron Spectrum of $Eu^{152,154}$ (Pozitronnyy spektr $Eu^{152,154}$)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958, Vol 35, Nr 4, pp 926 - 931 (USSR)

ABSTRACT: The Eu^{152}-decay (half-life 13 years) has already been investigated in a number of papers (e.g. Refs 1-4); the positron emission of europium was investigated with a magnetic lens spectrometer (Ref 5). For the investigations described the authors used a magnetic spectrometer with double beam focusing, which was specially constructed for investigation of the soft positron spectrum (Ref 6). The scheme of this device is illustrated by figure 1 and is described in detail in the second paragraph. As source, a 5μ thick Al-foil (4.20 mm^2), coated with europium of natural composition (density < 2 mg/cm^2) was used. Gauging of the spectrometer was carried out according to

Card 1/3

the lines of the $Eu^{152,154}$ conversion electrons, the energies of which are already accurately known (Ref 1); it was tested on the Cu^{64}, Zn^{65}-positron spectrum and on the ThC" internal conversion positron spectrum (Fig 3). The $Eu^{152,154}$-positron spectrum was measured in the interval of $1000 < Hρ < 3500$ [Oe.cm]. The curve shows a relatively broad maximum (385 keV) which has a salient point at $Hρ \sim 2400$ and declines sharply. The spectrum mainly consists of positrons due to the pair conversion of 1410 keV γ-quanta and of a $β^+$-spectrum with an end point energy of $E_o = 700 \pm 20$ keV. The spectrum is identified as that due to the positron decay of Eu^{152} ($T_{1/2}$ = 12a), the intensity of the positron decay was determined up to $I = (1.2 \pm 0.2).10^{-4}$ positrons per decay. Figure 5 shows the curve of electron conversion on the K-shell (E_γ = 1410 keV), the abscissa of the diagram is the number of pulses per second (Geiger counter); ordinate to I_M-current (spectrometer); figure 6 shows a diagram of the Fermi-$β^+$-spectrum. For positron decay $\log(\tau f)$ is given. The complete decay spectrum

Card 2/3

The Positron Spectrum of $Eu^{152,154}$ SOV/56-36-4-16/[illegible]

$Eu^{152} \rightarrow Sm^{152}$, Cd^{152} is shown by figure 7. The authors thank L.A.Sliv for valuable discussion. There are 7 figures, 1 table, and 17 references, 9 of which are Soviet.

ASSOCIATION: Leningradskiy fiziko-tekhnicheskiy institut Akademii nauk SSSR (Leningrad Physico-Technical Institute of the Academy of Sciences USSR)

SUBMITTED: May 26, 1958

Card 3/3

21(8),24(7)

AUTHORS: Antonova, S. F., Vasilenko, S. S., Kaganskiy, M. G., Kaminskiy, D. L.

SOV/56-37-3-13/62

TITLE: The Positron Spectrum of Eu^{152} and Eu^{152m}

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959, Vol 37, Nr 3(9), pp 667-671 (USSR)

ABSTRACT: In connection with the well-known considerable variation of the shape of the nucleus in the case of a change of the neutron number in the nucleus from N = 88 to N = 90, an investigation of the radioactive Eu^{152} and its isomer Eu^{152m} in the decay of which $_{62}Sm^{152}_{90}$ and $_{64}Gd^{152}_{88}$ are formed, is of interest. The present paper deals with the experimental investigation of the positron spectrum of these isotopes. The experimental order is schematically represented by figure 1, and is discussed in the introduction. For the purpose of measuring the spectrum, a magnetic sector spectrometer with double focusing and low background was used. Results are shown by figure 3. The curve has two salient points, one at H_ρ = 1920 G.cm and one at 2460 G.cm, which are caused by the internal pair

Card 1/3

conversion of γ-quanta having the energies 1280 and 1409 kev. Also partial β^+-spectra are plotted (β^+-groups (713±3) kev and (470±10) kev); the intensities are $1.4 \cdot 10^{-4}$ and $5 \cdot 10^{-5}$ β^+ per decay. Figure 4 shows the decay scheme. The β^+-decay of Eu^{152} takes place to the first (2^+) and the second (4^+) excited states of Sm^{152}; the half life of β^+-radiation is given as amounting to about 10 a. The formation of Sm^{152} in the ground- and first excited state occurs in the positron decay of the Eu^{152m} isomer. The end point energies of the partial spectra are 890 and 770 kev (intensities: $6 \cdot 10^{-5}$ and $2 \cdot 10^{-5}$ per decay). The excitation energy of the Eu^{152} isomer determined from the difference between the end point energies is given as amounting to 55±6 kev. From the internal pair conversion spectra the conversion coefficients Γ and the multipolarities of a number of γ-transitions are determined. Figure 5 shows the dependence of the pair conversion coefficient on the energy and the

multipolarity of the transition. The value $\Gamma = (1.6 \pm 0.2) \cdot 10^{-4}$ corresponds to a E1-transition, the value $\Gamma = (0.8 \pm 0.2) \cdot 10^{-4}$ corresponds to a transition with 1280 kev (E1). Further details are discussed. Figure 6 shows the positron spectrum of Eu^{152m}, which has a half-life of only 9.2 h. The value $\Gamma = (0.6 \pm 0.3) \cdot 10^{-4}$ corresponds to a E2-transition (1386 kev). In a table the results obtained by the authors are compared with those obtained by Alburger et al. (Ref 3). Agreement is good. The authors finally thank Professor L.A. Sliv for his interest. There are 7 figures, 1 table, and 8 references, 4 of which are Soviet.

SUBMITTED: April 18, 1959

KAGANSKIY, M. G., Cand Phys-Math Sci -- (diss) "Research into faint positron spectra." Leningrad, 1960. 5 pp; (Academy of Sciences USSR, Radium Inst im V. G. Khlopin); 200 copies; free; bibliography on page 5 (12 entries); (KL, 22-60, 130)

ANTONOVA, S.F.; VASILENKO, S.S.; KAGANSKIY, M.G.; KAMINSKIY, D.L.

Positron decay of Ir^{192}. Zhur.eksp.i teor.fiz. 38 no.2:379-383 F '60. (MIRA 14:5)

1. Leningradskiy fiziko-tekhnicheskiy institut Akademii nauk SSSR.
(Positrons) (Iridium--Decay)

ANTONOVA, S.P.; VASILENKO, S.S.; KAGANSKIY, M.G.; KAMINSKIY, D.L.

Investigating the gamma spectrum of Ce^{140}. Zhur.eksp.i teor.fiz. 38 no.3:765-767 Mr '60. (MIRA 13:7)

1. Leningradskiy fiziko-tekhnicheskiy institut Akademii nauk SSSR.
(Gamma rays) (Cerium--Isotopes)

S/056/60/039/004/012/048
B004/B070

24.6720

AUTHORS: Vasilenko, S. S., Kaganskiy, M. G., Kaminskiy, D. L., Koksharova, S. F.

TITLE: The Problem of the Formation of Monoenergetic Positrons in the Decay of Eu^{152} /9

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 39, No. 4(10), pp. 970-972

TEXT: According to the calculations of Professor L. A. Sliv (Ref. 1), an electron - positron pair may be formed when an excited nucleus in whose electron shell an electron is missing makes a transition from a level with $E > 2\ mc^2$ to the normal state. The electron occupies the vacancy in the shell, only the positron is emitted. All positrons produced in this process must have the same energy $E_n = E_\gamma - 2mc^2 + E_{sh}$ (1) (E_γ = transition energy, E_{sh} = binding energy of the electron in the shell). The probability of the formation of monoenergetic positrons is

Card 1/3

VASILENKO, S.S.; KAGANSKIY, M.G.; KAMINSKIY, D.L.

Magnetic spectrometer for investigating faint positron spectra. (MIRA 14:10)
Prib.i tekh.eksp. 6 no.5:42-44 S-O '61.

1. Fiziko-tekhnicheskiy institut AN SSSR.
(Spectrometer)

S/048/61/025/001/011/031
B029/B060

24.6510

AUTHORS: Vasilenko, S. S., Kamarskiy, M. G., Kaminskiy, D. L., and Koksharova, S. F.

TITLE: Internal conversion with pair production in the Ta^{182} decay

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, v. 25, no. 1, 1961, 61-67

TEXT: A study has been made of transitions with an energy of over $2mc^2$ using data of internal conversion with pair formation. As may be seen from Fig. 1, transitions with such processes take place through the energy gap. Transitions between the rotational bands with $K = 2^-$ and $K = 0^+$ are of particular interest (see Fig. 1). Experimental data do not contradict an emission of the type E3, E1 + M2 (predominantly E1), and even mixture E1 + M2 + E3 is admissible. The multipolarity was determined by the method devised by S. F. Antonova et al. (Ref. 9). In some cases, also mixed transitions can be analyzed by this method. In FB and HB transitions emissions of the E1, M2, and E3 are possible, in agreement

Card 1/6

Internal conversion with pair production ...

with the selection rules for spin and parity. In this case, the composition of radiation cannot be determined unequivocally from the intensity values of gamma transitions or from the conversion line data. The composition of radiation can be, however, determined from the data of internal conversion with pair formation. Three formulas are written down for this purpose. The authors determined the spectrum of the positrons of the pair conversion and the spectrum of the conversion electrons. The data of the relative intensity of gamma rays were taken from the paper by N. Voynova, B. S. Dzhelepov, N. N. Zhukovskiy (Ref. 9). The internal conversion with pair formation is very weak in the Ta^{182} decay. Fig. 2 illustrates the spectrum of the positrons. If E_+ denotes the energy corresponding to half the drop of the positron spectrum curves, $E_\gamma = E_+ + 2mc^2$. The energies of gamma transitions established in this manner are listed in a Table. The intensity of the positron spectra of individual gamma transitions must be known in order to be able to determine the multipolarity of transitions. In case of a low transition energy the distribution of the positrons is equally large for the transitions of the E1, E2, and M1 types. As an example, Fig. 2 shows the

Card 2/6

partial spectra caused by transitions with 1122, 1188, 1222, and 1231-kev energies. Fig. 3 shows the spectra of conversion electrons of Ta^{182}. The relative intensities of the K conversion lines and the corresponding partial spectra of positrons are listed in a Table. The lines of conversion electrons K1256 and (M+N)1189 are not separated. The multipolarities found for the transitions are as follows: 1122 kev: the value of $(\Gamma/a_k)_{exp}$ corresponds to a radiation of the E2 type. The M1 admixture must be small. The 1188-kev transition is a mixed one. An E1 radiation must take part in the FB transition. 75% E1 + (25±8)% M2 is found. The 1222-kev transition has, according to data available in the literature, an E2 multipolarity. Furthermore: 1231 kev - E2 with slight M1 admixture, 1256 kev - probably E1. 1275 kev: according to experimental data available, 80% E1 + 20% M2 fits best. The multipolarity of the 1290-kev transition can be of the M2, E3, or of an even higher type. The probability of E1 transitions from the F level is considerably smaller than the probability of the single-proton transition according to Weisskopf. The portion of E3 radiation in the FB transition amounts to no

Card 3/4

more than 20%. Therefore, the probability of the E3 transition cannot be more than four times as high as the probability of the single-particle transition. L. A. Sliv and I. M. Band are mentioned. The article under consideration is the reproduction of a lecture delivered at the 10th All-Union Conference on Nuclear Spectroscopy, which took place in Moscow from January 19 to 27, 1960. There are 3 figures, 1 table, and 14 references: 7 Soviet-bloc.

ASSOCIATION: Fiziko-tekhnicheskiy institut Akademii nauk SSSR (Institute of Physics and Technology, Academy of Sciences USSR)

Legend to the Table: Transition multipolarities in W^{182}. 1) transition energy, kev; 2) results yielded by the work under consideration; 3) data by Backstrom, Ref. 12; 4) intensity of the K line; 5) intensity of the positron spectrum; 6) calculated; 7) experimental; 8) type of emission.

S/048/62/026/008/015/028
B104/B102

AUTHORS: Badalov, N. B., Vasilenko, S. S., Kaganskiy, M. G., and Kaminskiy, D. L.

TITLE: Ag^{110*} positron spectrum

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 26, no. 8, 1962, 1042 - 1045

TEXT: The positron spectrum was studied using a double-focusing β-spectrometer which gave a resolving power of 1.8% at a solid angle of 1.2% of 4π. The Ag^{110*} source was supplied by thermal-neutron irradiation from metallic silver of natural isotopic composition. Sources of 0.6 - and ~6 mg/cm² thicknesses were used. The spectrum mainly consists of positrons produced in internal conversions giving γ-quantum pairs with energies of 1380, 1400, 1530, and 1560 kev. In the hard part of the spectrum, it was possible to separate out positrons derived from transitions at 1780 and 1930 kev. Transitions with energies of 1650 and 1880 kev are supposed. The multiplicities of the most important transitions were determined from the ratio of the pair conversion coefficient to the electron conversion coefficient

Card 1/8" 2

Ag^{110*} positron spectrum

(Table 2). It is proved that the 1597-kev transition detected by the authors occurs to the ground state. There are 2 figures and 2 tables.

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe Akademii nauk SSSR (Physicotechnical Institute imeni A. F. Ioffe of the Academy of Sciences USSR)

Table 2.

E_γ, keV	$\Gamma_n \times 10^4$						
	E1		E2		E3	M1	M2
	Z = 0	Z = 84	Z = 0	Z = 84	Z = 0		
1380	1,95	0,94	0,52	0,34	0,19	0,24	0,07
1480	2,64	1,46	0,82	0,60	0,27	0,42	0,10
1500	2,80	1,66	0,90	0,68	—	0,48	—
1560	3,2	1,92	1,12	0,80	0,42	0,60	0,22
1780	4,80	3,40	2,00	1,52	0,82	1,08	0,60
1930	5,88	4,46	2,72	2,00	1,20	1,56	0,80

Card 2/2

S/048/63/027/002/015/023
I104/B180

AUTHORS: Badalov, N. B., Vasilenko, S. S., Kaganskiy, M. G., and Kaminskiy, D. L.

TITLE: Internal conversion with pair production in the Br^{82} decay

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 27, no. 2, 1963, 258 - 259

TEXT: The positron spectrum produced by internal conversion with pair production in the decay of Br^{82} was measured with a spectrometer having an aperture ratio of 1.2% of 4π and a resolution of 1.2%. The Br^{82} source was obtained by irradiating $MgBr_2$ powder with thermal neutrons, after which a thin layer (5μ) was deposited on an Al foil. Results are given in Fig. 1 and 2 and in the Table. In the small energy range the two components (Fig. 1) differ considerably from experimental data. This is due to the relative thick source (2-3 mg/cm^2). There are 2 figures and 1 table.

Card 1/3

S/048/63/027/002/011/023
B104/B160

Internal conversion with...

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe Akademii nauk SSSR (Physicotechnical Institute imeni A. F. Ioffe of the Academy of Sciences USSR)

Fig. 1. Positron spectrum of Br^{82}.
Legend: (a) Component corresponding to the 1478 kev transition; (b) Component corresponding to the 1313 kev transition; (c) Sum of the two components.

Fig. 2. Br^{82} conversion lines.

Fig. 1

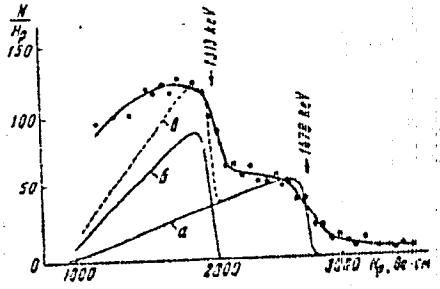
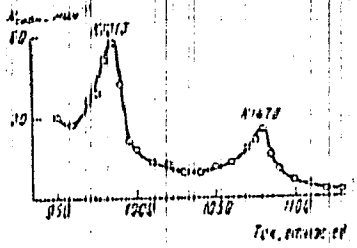


Fig. 2



Card 2/3

S/048/63/027/002/015/023
B104/B180

Internal conversion with...

Table. Comparison of the experimental and calculated values of Γ/α_K.
Legend: (1) Intensities; (2) $(\Gamma/\alpha_K)_{calc}$; (3) $(\Gamma/\alpha_K)_{exp}$; (4) multipole order.

Table

E_γ, keV	(1) Интенсивность, 10⁻⁴ от числа распад.	(2) $\left(\frac{\Gamma}{\alpha_K}\right)_{расч}$ E1	E2	M1	(3) $\left(\frac{\Gamma}{\alpha_K}\right)_{эксп}$	(4) Мультипольность
1313	0,770	0,78	0,13	0,08	0,11	E2,M1
1478	0,635	1,98	0,42	0,20	0,27	E2,M1

Card 3/3

BADALOV, N.B.; VASILENKO, S.S.; KAGANSKIY, M.G.; KAMINSKIY, D.L.

Internal conversion with pair formation in As^{76}. Izv.AN SSSR. Ser.fiz. 27 no.2:260-262 F '63. (MIRA 16:2)

1. Fiziko-tekhnicheskiy institut AN SSSR.
(Internal conversion (Nuclear physics))
(Arsenic isotopes--Decay)

S/056/63/044/001/006/067
B108/B180

AUTHORS: Badalov, N. B., Vasilenko, S. S., Kaganskiy, M. G., Kaminskiy, D. L., Nikitin, M. K.

TITLE: Positron decay of Re^{182}

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 44, no. 1, 1963, 35 - 40

TEXT: Two rhenium isomers with the half lives of 13 and 64 hr were obtained in the reaction $Ta^{181}(\alpha,3n)Re^{182}$ after chemical processing (purification) of the reaction product. These two isomers show positron emission during their $Re^{182} \rightarrow W^{182}$ decay, with intensities of $\sim 3\cdot10^{-3}$ and $5\cdot10^{-6}$ positrons per decay event, for the short and long-lived isomer, respectively. Analysis of the β-spectrum of the short-lived isomer by means of a Fermi graph showed two branches of β^+-decay with threshold energies of 550 ± 20 kev and 1740 ± 20 kev and the relative intensities of $0.6\cdot10^{-3}$ and $1.8\cdot10^{-3}$ positrons per decay event. The total energy of the $Re^{182} \rightarrow W^{182}$ transition is 2860 ± 20 kev. The positrons are due mainly to internal

Card 1/2

Positron decay of Re^{182}

S/056/63/044/001/006/067
B108/B180

conversion with pair production during the electromagnetic transitions accompanying the electron capture in Re^{182}. The low β^+-decay intensity of the long-lived isomer is attributed to K-forbiddenness. There are 5 figures.

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe Akademii nauk SSSR (Physicotechnical Institute imeni A. F. Ioffe of the Academy of Sciences USSR)

SUBMITTED: June 29, 1962

Card 2/2

ACCESSION NR: AP4040309 S/0057/64/034/006/1050/1056

AUTHOR: Kaganskiy, M.G.; Kaminskiy, D.L.; Klyucharev, A.N.

TITLE: Coherent oscillations in a high voltage Penning discharge

SOURCE: Zhurnal tekhnicheskoy fiziki, v.34, no.6, 1964, 1050-1056

TOPIC TAGS: plasma, discharge oscillations, plasma oscillations, argon plasma, Penning discharge, external magnetic field

ABSTRACT: Large amplitude coherent oscillations of frequency from 1 to 100 kilocycles/sec were observed in a high voltage Penning discharge in argon in a longitudinal magnetic field, The discharge took place between cold cathodes separated by 5 cm and a cylindrical anode of diameter 0.6, 1 or 2 cm. The pressure was varied from 0.0005 to 0.004 mm Hg, the anode potential from 1 to 5 kV, and the magnetic field from 0 to 3500 Oe. The ions passing through a small opening in one cathode were analyzed electrostatically. Nearly sinusoidal coherent oscillations were observed in both the cathode current and the anode potential, but only under such conditions that the discharge current increased with increasing anode potential. Grounding the anode through a 150 microfarad capacitor did not influence the cathode current os-

Card 1/3

ACCESSION NR: AP4040309

served by other authors in Penning discharges are mentioned, and it is shown that these differ in nature from those discussed above. A partly successful attempt is made to interpret the results in terms of the convective instability in a longitudinal electric field discussed by B.B.Kadomtsev (Nucl.Fus.1,286,1961), but a number of features remain unexplained and it is concluded that further investigation is required. Orig.art.has: 4 formulas and 5 figures.

ASSOCIATION: Fiziko-tekhnicheskiy institut im.A.F.Ioffe AN SSSR Leningrad (Physico-technical Institute, AN SSSR)

SUBMITTED: 15Jul63 DATE ACQ: 19Jun64 ENCL: 00

SUB CODE: ME, EM NR REF SOV: 003 OTHER: 007

Card 3/3

L 13450-66 EWT(1)/ETC(F)/EPF(n)-2/EWG(m) IJP(c) AT

ACC NR: AP6002440 SOURCE CODE: UR/0057/65/035/012/2176/2184

AUTHOR: Golant, V. Ye.; Kaganskiy, M.G.; Ovsyannikov, V.A.; Pilya, A.D.

ORG: Physico-technical Institute im. A.F.Ioffe, AN SSSR, Leningrad (Fiziko-tekhnicheskiy institut AN SSSR)

TITLE: A toroidal machine for adiabatic compression of plasma

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 12, 1965, 2176-2184

TOPIC TAGS: plasma heating, plasma compression, ~~plasma confinement, plasma device~~, nonhomogeneous magnetic field, magnetic field, plasma heating instrument

ABSTRACT: There is briefly described a new machine, the "Tuman", for ohmic heating and subsequent adiabatic compression of plasma. The chamber is in the form of a racetrack with 60 cm long straightaways and 20 cm radius semicircular ends. In order to meet the conflicting requirements for stable, efficient ohmic heating and high adiabatic compression ratio, the quasistationary longitudinal magnetic field (half-period 3 millisec) was made strong (up to 50 kOe) in the semicircular end regions and weak (1.5-3 kOe) in the straightaways. The radius of the chamber in the semi-circular end regions is 2 cm, and the plasma is stabilized by a 5 mm thick copper liner, which is slotted to permit penetration of the magnetic field. The radius of the chamber in the straightaways is 8.5 cm and the walls are of glass, there being no metallic liners that might reduce the rate of rise of the compressing magnetic

UDC: 533.9

Card 1/2

L 13450-66

ACC NR: AP6002440

field. The quasistationary magnetic field is produced by discharge of two 6 μ F5 kV capacitors through suitable windings. Preliminary ionization is effected by a 30 μ sec rf pulse. Ohmic heating is accomplished with the aid of a 0.2 V sec demountable transformer powered by a 25 μ F 10 kV capacitor bank and having a gap in the core of not more than 0.5 mm. Duration of ohmic heating is ordinarily 300 μ sec. The magnetic field in the straightaways can be raised from a few kOe or less to as high as 30 kOe in from 20 to 240 μ sec by discharge of an adjustable capacitor bank (possible values are 600 μ F and 20 kV) through special windings. These windings are similar to those described by Bartels (Naturwissenschaften, 50, 396, 1963); they were made in two layers of four turns each with the turns in the two layers inclined oppositely to the axis of the chamber in order to minimize the transverse component of the field. The machine was designed to compress 15 liters of plasma to a volume of 1 liter. The inhomogeneous quasistationary magnetic field was mapped out by means of probes with the windings excited at 400 Hz; the results are presented graphically and discussed briefly. In an appendix there is a brief theoretical discussion of the stability of the plasma. The authors thank A.I.Anisimov, N.I.Vinogradov, and V.N.Dyn'kov (deceased), who participated in the design of the machine, and S.I.Kosenko, V.A.Pautov, P.S.Serafimenko, and M.I. Kuleshov, who participated in its construction. Orig. art. has: 9 formulas and 5 figures.

SUB CODE: 20 SUBM DATE: 20May65 ORIG. REF. 005 OTH REF: 005

Card 2/2

L 16040-66 EWT(1)/ETC(f)/EPF(n)-2/EWG(m) IJP(c) AT

ACC NR: AP6004880 SOURCE CODE: UR/0057/66/036/001/0067/0079

AUTHOR: Golant, V. Ye.; Kaganskiy, M. G.; Ovsyannikov, V. A.

ORG: Physicotechnical Institute im. A. F. Ioffe, AN SSSR, Leningrad (Fiziko-tekhnicheskiy institut AN SSSR)

TITLE: Investigation of plasma in the "Tuman" installation

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 1, 1966, 67-79

TOPIC TAGS: hydrogen plasma, heated plasma, confined plasma, plasma compression, plasma confinement, plasma density, plasma heating, plasma density, plasma temperature, plasma research

ABSTRACT: The first experiments with the "Tuman" installation are reported. The machine which is of race-track construction, was recently described by the authors and A. D. Diliya (ZhTF, 35, No. 12, 1965). In the semicircular end sections the diameter of the chamber is small and the longitudinal magnetic field strength is made high to facilitate ohmic heating; in the straightaways the diameter of the chamber is larger and the initial longitudinal magnetic field strength is made low, to facilitate adiabatic magnetic compression of the plasma. The present experiments were undertaken mainly to explore the conditions of electrodeless discharge and ohmic heating. The machine was pumped down to 10^{-6} mm Hg before the experiments and was cleaned with several dozen preliminary discharges, but it was not baked out. The experiments were performed with a steady flow of hydrogen. Preliminary ionization was effected with a

Card 1/3 UDC: 533.9

L 16040-66

ACC NR: AP6004880

30 μ sec 5 MHz pulse on the diaphragm in one of the straightaways. With no longitudinal magnetic field, discharge could be thus effected at pressures down to 0.008 mm Hg, and in the presence of a weak longitudinal magnetic field, at pressures down to 0.002 mm Hg. In both cases an electric field of 1.2 V/cm or higher was required. To effect preliminary ionization at lower hydrogen pressures a 0.5 μF capacitor charged to 5 kV was connected to both diaphragms simultaneously with application of the high frequency pulse; by this means it was possible to reduce the minimum pressure at which ionization could be effected by a factor 2 or 3. Ohmic heating experiments were performed at hydrogen pressures from 0.008 to 0.05 mm Hg and induced emfs from 300 to 1000 V. The rise time (quarter period) of the heating pulse was 300 or 600 μsec, and the current in the plasma was usually between 1 and 3 kA. During the heating the plasma density quickly reached the critical value for cutoff of 8 mm microwaves. The current in the plasma dropped to zero somewhat before the induced emf did. The maximum plasma current increased rapidly with increasing longitudinal magnetic field strength for fields below about 1 kOe. With further increase of the magnetic field strength the maximum current as well as its duration decreased and the current exhibited strong oscillations. This behavior is ascribed to the influence of a transverse component of the magnetic field, and attempts are now under way to improve the longitudinal magnetic field geometry. The diamagnetic moment of the plasma was measured with the aid of a pickup coil at the center of one of the semicircular end sections. The emf induced by the longitudinal magnetic field itself was compensated by the emf induced in a second winding located outside the plasma and the self inductance between the pickup coil and the plasma filament was eliminated by making successive measurements

Card 2/3

L 16040-66
ACC NR: AP6004880

with the current in opposite directions. It is not clear how the signal due to paramagnetism was evaluated or eliminated. From the diamagnetic moment of the plasma its density and temperature were estimated. At hydrogen pressures of 0.02 to 0.002 mm Hg ionizations of 50 to 90% were achieved with plasma temperatures of 4 to 8 eV. At 0.01 mm Hg hydrogen pressure and magnetic fields from 1 to 3 kOe, a plasma density of 5×10^{14} cm^{-3} was reached. Energy balance considerations indicated that the plasma was confined for approximately 20 μsec. Preliminary magnetic compression experiments were performed, with the field increasing to a maximum of from 4.5 to 18 kOe in from 10 to 30 μsec. High speed photographs showed that the diameter of the plasma filament was decreased by several times. The authors thank A.B.Berezin for performing spectroscopic measurements, S. G.Kalmykov for performing the microwave measurements, V. L. Pautov for active participation in the work, and the staff of the laboratory for assistance and valuable advice. Orig. art. has: 4 formulas, 8 figures, and 2 tables. [15]

SUB CODE: 20/ SUBM DATE: 21May65/ ORIG. REF: 004/ ATD PRESS: 4202

Card 3/3

IVANOV, N.I., kand.tekhn.nauk; SOCHINSKIY, V.P., inzh.; KAGANSKIY, M.Ya., inzh.; ZYKOV, V.M., inzh.

Efficient methods of developing new levels in the operative Donets Basin mines mining flat seams. Sbor.DonUGI no.21:3-35 '61. (MIRA 15:6)

(Donets Basin--Coal mines and mining)

IVANOV, N.I., kand. tekhn. nauk; KAGANSKIY, M.Ye., inzh.; DZYUBA, Yu.S., inzh.

Effect of concentrating production on the operating indices of mines. Sbor. DonUGI no.29:67-80 '63. (MIRA 16:10)

(Coal mines and mining—Management)

IVANOV, N.I., kand.tekhn.nauk; ZYKOV, V.M., inzh.; KAGANSKIY, M.Ye., inzh.

Some cost indices for operative mines and mines under reorganization. Sbor.DonUGI no.21:89-99 '61. (MIRA 15:6)
(Donets Basin--Coal mines and mining--Costs)

S/117/60/000/012/020/022
A004/A001

AUTHOR: Kaganskiy, S.

TITLE: A Glue for the Joining of Shell Half-Molds

PERIODICAL: Mashinostroitel', 1960, No. 12, p. 41

TEXT: The author reports on a new glue of his own composition which is being used for the joining of shell half-molds. Formerly, at the Kiyevskiy mototsikletnyy zavod (Kiyev Motorcycle Plant) the half molds for the casting of the ribbed cylinders of the motorcycle engines were joined with the aid of steel brakets, which, apart from being expensive, did not ensure a tight joint. The new glue, which can be stored for a protracted period is composed of the МФ-17 (MF-17) resin (50-60%), powdered quartz-marshalite (40-50%) and ammonium chloride (1-1.5%). The powdered quartz is roasted at temperatures in the range of 850-900°C for 3-3.5 hours. After cooling down, it is sifted through a silk screen. Then the marshalite is mixed with the MF-17 resin while the mixture is stirred continuously. To accelerate the solidification process of the glue seam, a catalyzer is added, i. e. ammonium chloride powder, which is also carefully mixed with the glue. The durability of the glue with the catalyzer amounts to 1.5 hours, while the glue

Card 1/2

KAGANSKIY, V.Ye. (Leningrad, B. Pushkarskaya, d.63, kv. 6)

Case of diaphragmatic cyst. Vop.onk. 5 no.3:368-370 '59. (MIRA 12:12)

1. Iz Pargolovskoy bol'nitsy Vyborgskogo rayona Leningrada (glavn. vrach. - A.K. Basenko) i Khirurgicheskoy kliniki dlya usovershenstvovaniya vrachey (nach. - deystvitel'nyy chlen AMN prof. P.A. Kupriyanov) Voyenno-meditsinskoy ordena Lenina akademii S.M. Kirova.
(DIAPHRAGM, cysts,
case reports (Rus))

BERMAN, N.A.; KAGANSKIY, V.Ye.

Tomography in the diagnosis of tumors of the prostate. Vop. onk. 6 no.7:71-74 Je '60. (MIRA 14:4)
(PROSTATE GLAND--TUMORS) (BLADDER--RADIOGRAPHY)

KAGANSKIY, V.Ye. [deceased] (Leningrad, ul. Skorokhodova, d. 3, kv. 44)

Lipoma of the bone; a case report. Vop. onk. 9 no.10:97-99 '63.
(MIRA 17:12)

1. Iz rentgenologicheskogo otdeleniya (zav. - prof. L.M.Gol'dshteyn [deceased]) Instituta onkologii AMN SSSR (direktor - deystvitel'nyy chlen AMN SSSR prof. A.I.Serebrov).

KAGANSKIY, Ye.K.

Clinical and radiographic study of the functional and morphological peculiarities of the gastrointestinal tract in the early stages of pulmonary tuberculosis. Trudy LSGMI 46:276-286 '59. (MIRA 13:11)

1.Klinika legochnogo tuberkuleza Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta (zav. kafedroy - prof. Ye.Ye.Klionskiy) i Kafedra rentgenologii i radiologii (zav. kafedroy - prof. B.M. Shtern).
(TUBERCULOSIS) (DIGESTIVE ORGANS--RADIOGRAPHY)

KAGANSKIY, Ye.K.

Recognition of a cavity in pulmonary tuberculosis. Trudy LSGMI 46:270-275 '59. (MIRA 13:11)

1. Klinika legochnogo tuberkuleza Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta (zav. klinikoy -- prof. Ye.Ye. Klionskiy).
(TUBERCULOSIS)

KAGANSKIY, Ye.K.

Clinical and radioscopic study of functional and morphological peculiarties of the gastrointestinal tract in emrly stages of pulmonary tuberculosis. Trudy LSGMI 53:143-151 '59.
(MIRA 13:10)

1. Kafedra rentgenologii s meditsinskoy radiologiyey Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta (zav. kafedroy - prof. B.M. Shtern) i Klinika tuberkuloza Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta (zav. klinikoy - prof. Ye.Ye. Klionskiy).
(TUBERCULOSIS) (DIGESTIVE ORGANS—RADIOGRAPHY)

KAGANTSOVA, N. I.

"Effect of Surrounding Conditions on the Development of the Common Field Mouse." Cand Biol Sci, All-Union Sci Res Inst of Plant Protection, VASKhNIL, Leningrad, 1953. (RZhBiol, No 1, Sep 54)

SO: Sum 432, 29 Mar 55

S/081/62/000/022/009/088
B177/B186

AUTHORS: (3) Kagarlitskaya, N. V., (4) Klimov, V. V., Kagarlitskaya, N. V., Shcherbov, D. P.

TITLE: Infra-red spectrometry of inorganic substances.
(3) The preparation of solid specimens for quantitative determination.
(4) Absorption spectra of some silicate minerals in the 2-15 micron range

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 22, 1962, 115-116, abstract 22D26 (Tr. Kazakhsk. n.-i. in-ta mineral'n. syr'ya, no. 3, 1960, 308-311; 312-317)

TEXT: (3) A study was made of the conditions under which tablets of the substances to be analyzed could be obtained in a mixture with KBr, and which could be used for recording IR absorption spectra of solid substances. It was noted that the following conditions should be observed in order to obtain high-grade tablets: the KBr and the substance to be analyzed should be dry and crushed to a particle size of ≤ 5 μ; before pressing the tablets, the air should be pumped out for 5-7 min, and

pressing should be performed at a pressure of 5-6 kg/cm^2. If particle size greatly exceeds 5 μ, the form of the absorption bands is distorted. However, in the method of pressing the tablets the effect of large particles is less apparent than when depositing the substance on to transparent plates of NaCl or KBr. At low pressures, the tablets obtained are opaque and rapidly crack. If they are pressed without a vacuum under low pressure, the tablets crack when the load is released through the expansion of air contained in the powder. If KBr or the substance to be analyzed are used with an excessive moisture content, opaque tablets are produced. (4) IR absorption spectra in the 2-15 μ range (on a single-beam spectrometer) were obtained for the following 32 minerals in the form of pressings with KBr: zircon, thorite, olivine, fayalite, topaz, disthen, andradite, vesuvianite, titanite, axinite, calamine, epidote, orthite, beryl, chrysocolla, tourmaline, diopside, hedenbergite, spodumene, anthophyllite, wollastonite, radusite-asbestos, talc, phlogopite, muscovite, sericite, penninite, nepouite, dickite, orthoclase, microcline, and lazurite. A diagram shows the positions of the absorption bands in the IR absorption spectra of the above minerals. No simple regularity or arrangement of the absorption bands were observed in the spectra of

Infra-red spectrometry of ...

minerals in the same sub-class, nor any substantial differences between the spectra of different sub-classes. Minerals having the same chemical composition, and which do not crystallize in different syngonies, have different spectra. An analytical scheme is proposed for identifying a silicate which is to be determined, from the IR absorption spectra of minerals previously investigated. For this purpose, the schematic spectra of the minerals are arranged, according to a formal feature of the appearance of their spectra, into two groups: those of minerals containing water, and those containing no water. The minerals are arranged within each group in increasing order of the number of absorption bands in their spectrum. If the number of bands is the same, the first spectrum is that of the mineral whose first band has the shortest wavelength. A given mineral is identified by obtaining its IR absorption spectrum (2-15 μ), and by finding the principal absorption bands in it. Should the spectrum contain a large number of bands, it is diagrammatically drawn on tracing paper to the same scale as the diagram of the spectra of the known minerals. The tracing paper is then laid over the diagram of spectra of the known minerals, and by moving it along the diagram, the minerals are found whose absorption bands correspond to the spectrum of the mineral

Card 3/4

Infra-red spectrometry of ...

under investigation. The proposed system can be employed both to identify unknown specimens of a single mineral and to discover similar IR absorption spectra for minerals in different sub-classes. For Part 2, see RZhKhim, 1960, no. 18, 72262. [Abstracter's note: Complete translation.]

SHCHERBOV, D.P.; KAGARLITSKAYA, N.V.

Effect of large amounts of some elements on the fluorometric determination of gallium by rhodamine C. Zav.lab. 28 no.1:30-33 '62. (MIRA 15:2)

1. Kazakhskiy institut mineral'nogo syr'ya.
(Gallium--Analysis)
(Fluorometry)

SHCHERBOV, D. P.; IVANKOVA, A. I.; SOLOV'YAN, I. T.; KAGARLITSKAYA, N. V.

Determination of gallium in ores by rhodamine. Metod. anal. khim.reak. i prepar.no. 4:75-79 '62. (MIRA 17:5)

1. Kazakhskiy institut mineral'nogo syr'ya (KazIMS).

KAGARLITSKAYA, Ol'ga Timofeyevna; SUVOROV, I.V., red.; ZHUKOVA, Ye.G., tekhn. red.

[Ground rent; development of capitalism in agriculture] Zemel'naia renta; razvitie kapitalizma v sel'skom khoziaistve. Leningrad, Izd-vo Leningr. univ., 1961. 101 p. (MIRA 15:3)

(Rent (Economic theory))

KAGARLITSKIY, A.D.; SUVOROV, B.V.

Vapor phase ammonolysis of benzaldehyde and benzoic acid on titanium vanadate. Izv. AN Kazakh. SSR. Ser.khim. no.1:84-90 '58. (MIRA 12:2)

(Benzaldehyde) (Benzoic acid) (Ammonolysis)

KAGARLITSKIY, A.D.; SUVOROV, B.V.

Ammonolysis of trans- and cis-isomers of k,4-dimethylcyclohexane.
Trudy Inst.khim.nauk AN Kazakh. SSR 2:112-115 '58. (MIRA 12:2)
(Cyclohexane) (Ammonolysis)

RAFIKOV, S.R.; SUVOROV, B.V.; KAGARLITSKIY, A.D.

Dehydrogenation of benzylamine on titanium vanadate under conditions of oxidative ammonolysis. Izv.AN Kazakh.SSR.Ser.khim. no.1:77-79 '59. (MIRA 13:6)
(Benzylamine) (Dehydrogenation) (Titanium vanadate)

SOV/79-29-1-34/74

AUTHORS: Kagarlitskiy, A. D., Suvorov, B. V., Rafikov, S. R.

TITLE: On the Reaction of Acetophenone With Gaseous Ammonia Over Titanium Vanadate (O reaktsii vzaimodeystviya atsetofenona s ammiakom v gazovoy faze na vanadate titana)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 1, pp 157-158 (USSR)

ABSTRACT: On the basis of the synthesis of the trimethyl pyridine from acetone and ammonia according to Chichibabin (Ref 1) it could be expected that in the ammonolysis of acetophenone a 2,4,6-triphenyl pyridine were formed. It was the objective of the present paper to prove that this reaction can really take place. Molten titanium vanadate was chosen as a catalyst which, as previously established (Ref 7), has no bad dehydrating qualities. Already the first ammonolysis experiments of acetophenone have shown that in this case really 2,4,6-triphenyl pyridine results as the main product. This was obtained under optimum conditions at 370-380° in a 35% yield, referred to the transmitted, and in a 98% yield referred to the acetophenone reacted which may easily be seen from the diagram. At 400° and more the yield decreased as crack reactions took place

Card 1/2

On the Reaction of Acetophenone With Gaseous Ammonia Over Titanium Vanadate

under the formation of low-molecular products. In the experiments performed below 350° the resinous products were separated on the surface of the catalyst, whereby its activity was reduced. It was however possible to restore its activity in the air current at 400°. The catalyst was made by melting titanium dioxide with vanadium pentoxide according to the formula $Ti(VO_3)_4$. There are 1 figure and 9 references, 5 of which are Soviet.

ASSOCIATION: Institut khimicheskikh nauk Akademii nauk Kazakhskoy SSR (Institute of Chemical Sciences of the Academy of Sciences, Kazakhskaya SSR)

SUBMITTED: November 22, 1957

SOV/80-32-2-27/56

AUTHORS: Kagarlitskiy, A.D., Suvorov, B.V., Rafikov, S.R.

TITLE: Ammonolysis of Benzaldehyde on Mixed Oxide Catalysts (Ammonoliz benzal'degida na smeshannykh okisnykh katalizatorakh)

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Vol XXXII, Nr 2, pp 388-391 (USSR)

ABSTRACT: During the interaction of benzaldehyde with ammonia in the presence of titanium vanadate and tin vanadate benzonitrile is formed with an output of 87 - 88%. Lophine is produced in small amounts by a side reaction. Another side reaction is the hydration of benzaldehyde to toluene.
There is 1 graph and 11 references, 2 of which are Soviet, 6 American, 2 English, and 1 German.

ASSOCIATION: Institut khimicheskikh nauk Akademii nauk KazSSR (Institute of Chemical Sciences of the Academy of Sciences of the Kazakh SSR)

SUBMITTED: June 12, 1957

Card 1/1

KAGARLITSKIY, A. D., Cand Chem Sci -- (diss) "Investigation into the oxidative ammonolysis of some monoalkylbenzenes." Alma-Ata, 1960. 11 pp; (Kazakhstan State Univ im S. M. Kirov); 150 copies; price not given; (KL, 17-60, 141)

S/850/62/008/000/003/004
B119/B101

AUTHORS: Suvorov, B. V., Rafikov, S.R., Kagarlitskiy, A. D., Sabirova, A. A., Svetasheva, V. A.

TITLE: Oxidation of organic compounds. Communication XXXIII. Oxidizing ammonolysis of p- and m-xylene mixtures

SOURCE: Akademiya nauk Kazakhskoy SSR. Institut khimicheskikh nauk. Trudy. v. 8. Alma-Ata, 1962. Kataliticheskiy sintez monomerov. 109-114

TEXT: The synthesis of terepththalic dinitrile (I) and isophthalic dinitrile (II) was investigated by reaction of mixtures of p- and m-xylene of various molar ratios in amounts of 40-70 g with 120-175 g of NH_3, 350-500 g of H_2O, and 2400-4800 liters of air per hour and per liter of catalyst, with contact times of 0.2 - 0.5 sec, at 350-410°C. Molten lead vanadate served as catalyst. The contents of I and II in the reaction product were determined by polarography. Results: The yields of I and II were only slightly affected by a change in the contact time and in the rate of adding the reaction mixture. When the reaction

Card 1/2

Oxidation of organic compounds... S/850/62/008/000/003/004
B119/B101

temperature is raised the yield of I + II reaches a maximum between 360 and 390°C, while the yield of gaseous substances increases steadily. The formation of I and II depends essentially on the molar ratio of the xylene isomers used: under otherwise equal reaction conditions, the yields of I were ~39, ~3, and ~52%, whilst those of II were ~35, ~3, and over 80% respectively, at the ratios m-xylene : p-xylene = 4:1, 1:1, and 1:9 (referring to the theoretical maximum yield). There are 5 figures.

Card 2/2

KAGARLITSKIY, A.D.; SUVOROV, B.V.; RAFIKOV, S.R.

Oxidation of organic compounds. Report No.25: Oxidative ammonolysis of some monoalkylbenzenes. Trudy Inst.khim.nauk AN Kazakh.SSR 7:57-67 '61. (MIRA 15:8)
(Benzene) (Ammonolysis)

SUVOROV, B.V.; RAFIKOV, S.R.; KAGARLITSKIY, A.D.; ZAKIROVA, A.A.; SVETASHEVA, V.A.

Oxidation or organic compounds. Report No.33: Oxidative ammonolysis of a mixture of p- and m-xylenes. Trudy Inst.khim. nauk AN Kazakh.SSR 8:109-114 '62. (MIRA 15:12)
(Xylene) (Ammonolysis) (Oxidation)

SUVOROV, B.V.; RAFIKOV, S.R.; ZHUBANOV, B.A.; KOSTROMIN, A.S.; KUDINOVA, V.S.; KAGARLITSKIY, A.D.; KHMURA, M.I.

Catalytic synthesis of the dinitrile of terephthalic acid.
Zhur. prikl. khim. 36 no.8:1837-1847 Ag '63. (MIRA 16:11)

KAGARLITSKIY, A.D.; SUVOROV, B.V.; RAFIKOV, S.R.; KOSTROMIN, A.S.

Catalytic synthesis of benzonitrile by means of the oxidative ammonolysis of aromatic compounds. Zhur. prikl. khim. 36 no.8:1848-1852 Ag '63. (MIRA 16:11)

POLIMBETOVA, F.A.; SUVOROV, B.V.; RAFIKOV, S.R.; KAGARLITSKIY, A.D.; BOGDANOVA, Ye.D.

Some results of research on the synthesis and tests of the growth promoting substance "nikazin". Vest. AN Kazakh. SSR. 20 no.7:3-10 Jl '64. (MIRA 17:11)

SUVOROV, B.V.; RAFIKOV, S.R.; KAGARLITSKIY, A.D.

Oxidative ammonolysis of organic compounds. Usp. khim. 34 no.9:1526-1549 S '65. (MIRA 18:10)

1. Institut khimicheskikh nauk AN KazSSR.

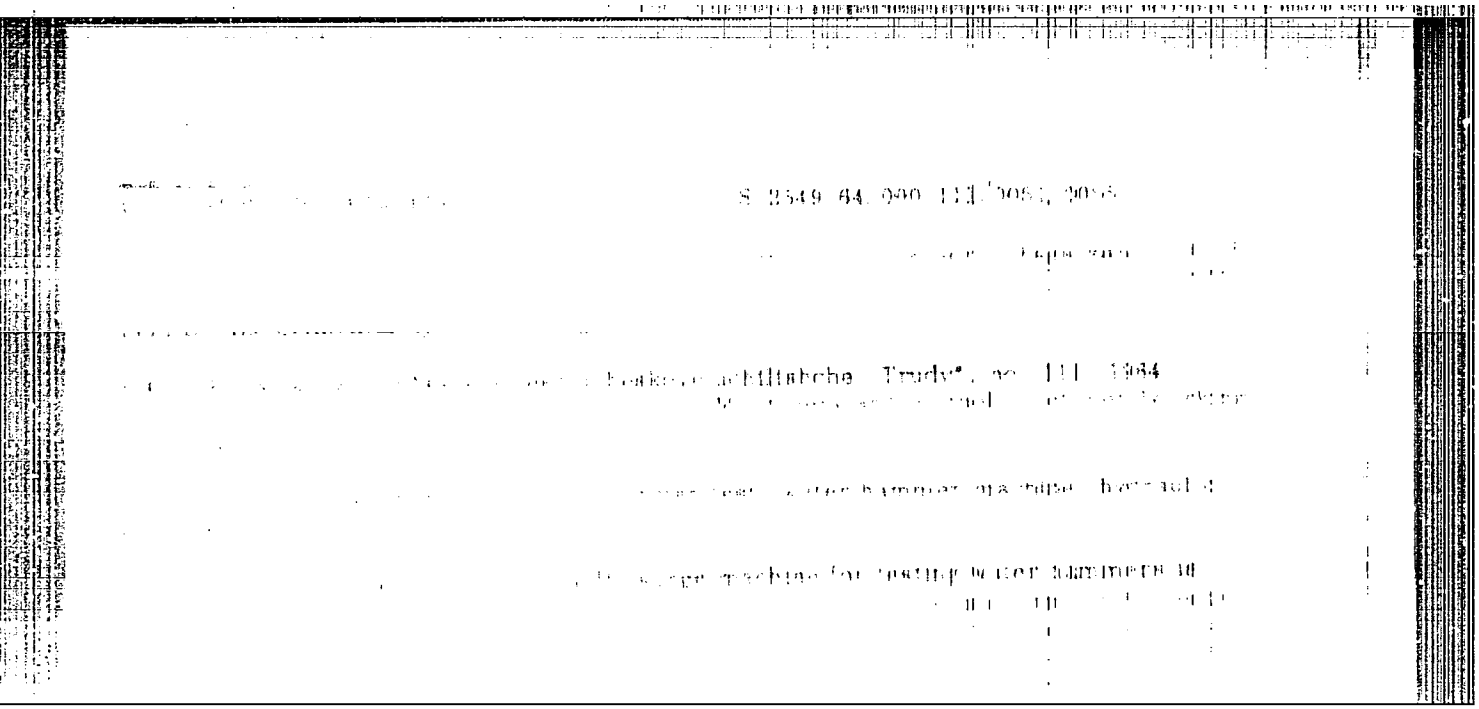
VATKIN, Ya. L., kand. tekhn. nauk; BERDYANSKIY, M. G., inzh.; BRODSKIY, I. I., inzh.; DRUYAN, V. M., inzh.; KOLPOVSKIY, N. M., inzh.; KAGARLITSKIY, A. S., inzh.; LUDKNSKIY, A. M., inzh.

Fixed mandrels on automatic mills. Nauch. trudy. DMI no.48: 174-185 '62. (MIRA 15:10)

(Pipe mills)

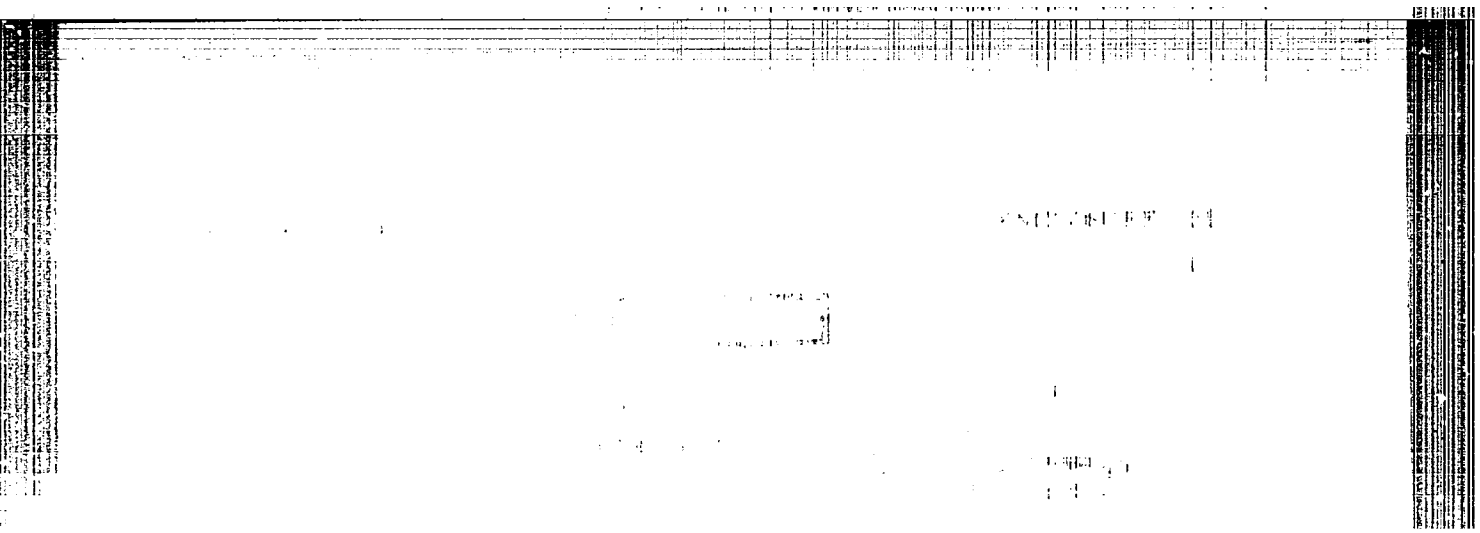
PLYATSKOVSKIY, O.A., kand. tekhn. nauk; KAGALITSKIY, A.S., inzh.

Nature of the development of slipping in a tangential direction on transverse and helical rolling mills. Proizv. trub no.10:14-19 '63. (MIRA 17:10)



Card 1/6

system attaining a reserve of plastic potential



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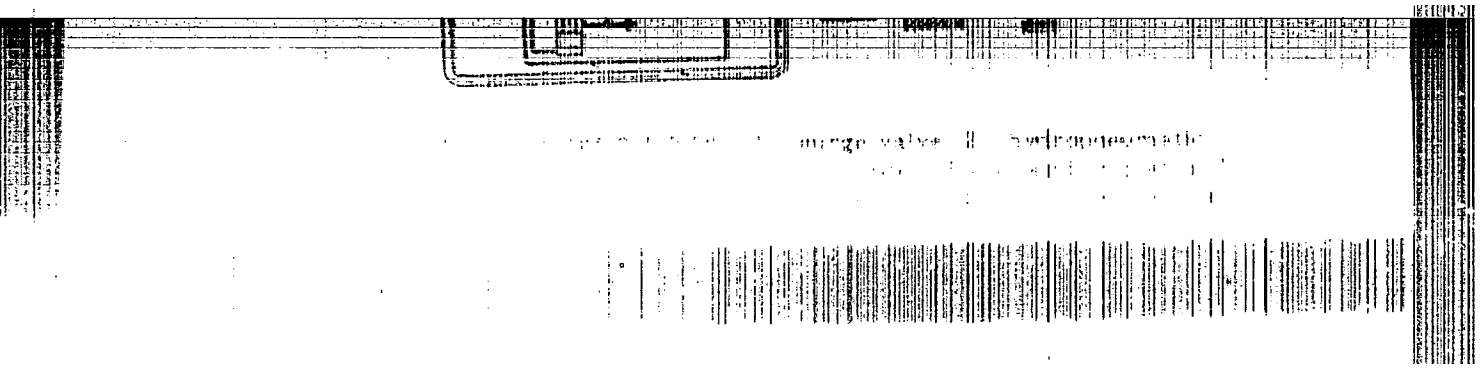

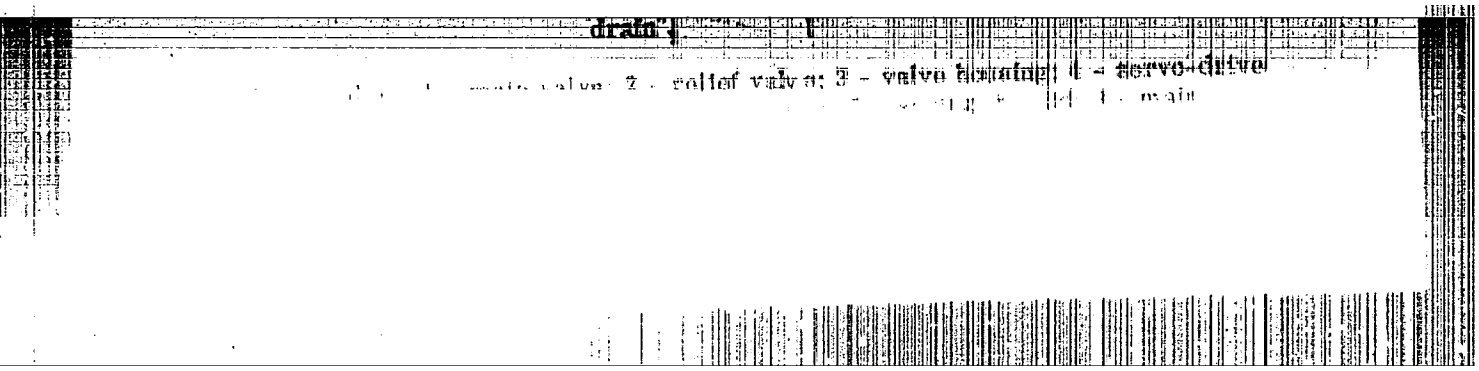

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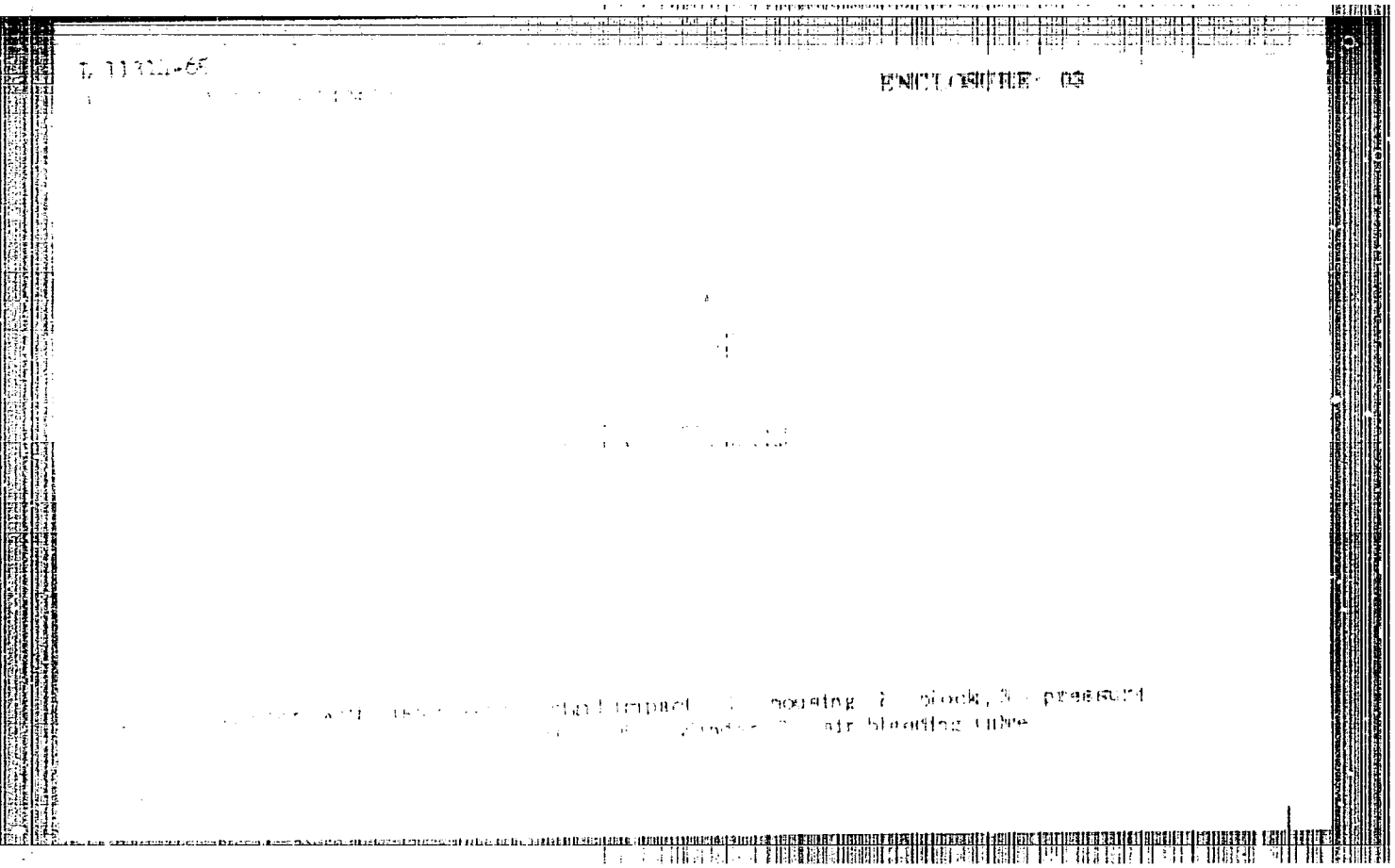

ENCLOSURE 03

L 3551-66 EWT(d)/EWT(m)/EWP(v)/EWP(t)/EWP(k)/EWP(h)/EWP(b)/EWP(l)/EWA(d) JD/HW
ACCESSION NR: AP5024435 UR/0286/65/000/015/0146/0146

AUTHORS: Zimin, A. I.; Kagarmanov, A. F.
44 55 44 55

TITLE: Pulsed hydraulic press-hammer. Class 58, No. 173608
44 55 14

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 15, 1965, 146

TOPIC TAGS: hydraulic equipment, metal press 14

ABSTRACT: This Author Certificate presents a pulsed hydraulic press-hammer provided with a pulsed valve and a pipe with a diameter equal to the inside diameter of the cylinder. To increase the effectiveness of operation and to decrease the size, the pedestal of the press-hammer is in the form of a closed force frame with a hydraulic reflector, and the operating pipe is in the form of a coil (see Fig. 1 on the Enclosure). Orig. art. has: 1 diagram.

ASSOCIATION: none

SUBMITTED: 03Dec63 ENCL: 01 SUB CODE: IE

NO REF SOV: 000 OTHER: 000

Card 1/2

L 3551-66
ACCESSION NR: AP5024435

ENCLOSURE: 01

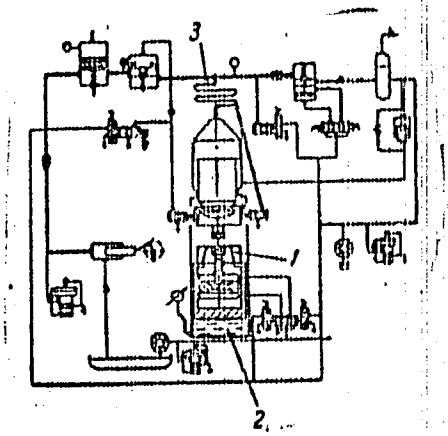

Fig. 1.
1- force frame; 2- hydraulic reflector; 3- coil

Card 2/2

ACC NR: AP6029079 SOURCE CODE: UR/0413/66/000/014/0142/0142

INVENTORS: Zimin, A. I.; Kagarmanov, A. F.; Sverchkov, Yu. S.

ORG: none

TITLE: A hydraulic impulse forge press. Class 58, No. 184131

SOURCE: Izobret prom obraz tov zn, no. 14, 1966, 142

TOPIC TAGS: hydraulic equipment, forge press, valve

ABSTRACT: This Author Certificate presents a hydraulic impulse forge press with its power system provided with a hydroaccumulator. The latter propels the working liquid through an impulse valve onto the plunger. To produce the opposite movement of another working plunger, the hydroaccumulator is connected to another closed hydraulic power system with an impulse valve (see Fig. 1). The sizes of both hydraulic power systems are selected to satisfy the condition that the opposite

Card 1/2 UDC: 621.226:621.974.4

GASANOV, F.G.; KAGRAMANOV, A.K.

Unsteady liquid flow to wells and determination of the parameters of a stratum under conditions of elasticity. Izv. AN Azerb.SSR. Ser.fiz.-tekh. i mat. nauk no.4:57-64 '64.

(MIRA 18:3)

KAGRAMANOVA, A.K.

Closed reposition of the vertebrae in complicated spinal fractures.
Khirurgiia 40 no.5:10-15 My '64. (MIRA 18:2)

1. Travmatologicheskaya klinika (zav.- prof. I.I. Sokolov, glavnyy khirurg - chlen-korrespondent AMN SSSR prof. B.A. Petrov) Moskovskogo gorodskogo nauchno-issledovatel'skogo instituta skoroy pomoshchi imeni Sklifosovskogo (dir. M.M. Tarasov).

ILLARIONOV, Aleksey Alekseyevich; KALGANOV, M.I., otv. red.; NIKOLAYEVA, I.N., red.

[Petrography and mineralogy of ferruginous quartzites in the Mikhaylovskoye deposit of the Kursk Magnetic Anomaly] Petrografiia i mineralogiia zhelezistykh kvartsitov Mikhailovskogo mestorozhdeniia Kurskoi magnitnoi anomalii. Moskva, Nauka, 1965. 162 p. (MIRA 18:6)

KAGARMANOV, A.Kh.; MOISEYEVA, E.G.

Faunal finds in the fossil-free lower Carboniferous terrigenous strata of the Kalba Range and the western part of the southern Altai. Dokl. AN SSSR 139 no.5:1187-1189 Ag '61. (MIRA 14:8)

1. Leningradskaya kameral'naya gruppa Altayskoy geologos"yemochnoy ekspeditsii. Predstavleno akademikom D.V. Nalivkinym.
(Altai Mountains—Paleontology, Stratigraphic)

KAGARMANOV, A.Kh.

Some problems of the stratigraphy of the lower layers of Lower Carboniferous sediments in the Kalba-Narym structural-facies zone. Izv.vys.ucheb.zav.; geol.i razv. 5 no.8:34-42 Ag '62. (MIRA 15:11)

1. Leningradskiy gornyy institut im. G.V.Plekhanova.
(Altai Mountains--Geology, Stratigraphic)
(Kalba Range--Geology, Stratigraphic)

KAGARMANOV, A.Kh.

Tectonic movements in the second part of the Early Carboniferous epoch in the southwestern part of the southern Altai. Trudy VSEGEI 74:85-91 '62. (MIRA 15:9)
(Altai Mountains—Geology, Structural)

LUTKOVSKAYA, T.A.; SOKRATOV, G.I.; KAGARMANOV, A.Kh.; YAKUBOVICH, V.S.

Metallogeny of the Kalba range. Sov. geol. 7 no.10:79-87 O '64.
(MIRA 17:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologicheskiy institut i Leningradskiy gornyy institut.

KAGARMANOV, A.Kh.; TARASENKOV, A.M.

Stratigraphic position of volcanic formations in the Paleozoic cross section of the Kalba Range. Zap. LGI 47 no.2:25-34 '64. (MIRA 18:3)

KAGANTSEV, A.A.

Conditions governing the formation of Upper Devonian and Lower Carboniferous sediments in the Kalba Range and southern Altai. Izv. Ak. Kazakh. SSR. Ser.geol. 22 no.2:76-78 Mr-Ap '65. (MIRA 18:5)

1. Leningradskiy gornyy institut, Leningrad.

KAGARMANOV, M.I.

11(4) PHASE I BOOK EXPLOITATION SOV/2124

Mezhvuzovskoye soveshchaniye po voprosam novoy tekhniki v neftyanoy promyshlennosti. Moscow, 1956

Razvedka i razrabotka neftyanykh i gazovykh mestorozhdeniy; materialy soveshchaniya, tom. 1 (Prospecting and Development of Oil and Gas Deposits; Papers of the Inter-Vuz Conference on New Techniques in the Petroleum Industry, Vol 1) Moscow, Gostoptekhizdat, 1958. 311 p. Errata slip inserted. 1,500 copies printed.

Eds.: I. M. Murav'yev, Professor, Doctor of Technical Sciences, and V. N. Dakhnov, Professor, Doctor of Geological and Mineralogical Sciences; Editorial Board: K. F. Zhigach, Professor (Resp. Ed.), I. M. Murav'yev, Professor, A. A. Tikhomirov, Candidate of Economical Sciences, V. I. Yegorov, Candidate of Economical Sciences, M. M. Charygin, Professor, F. F. Dunayev, Professor, N. I. Chernozhukov, Professor, Ye. M. Kuzmak, Professor, I. A. Charnyy, Professor, G. M. Panchenkov, Professor, V. N. Dakhnov, Professor, Doctor of Geological and Mineralogical Sciences, N. S. Nametkin, Doctor

Card 1/16

working of oil and gas deposits, and the use of new devices employed in oil and gas exploitation. There are 52 references: 44 Soviet, and 8 English.

TABLE OF CONTENTS:

Vykhodtsev, S. V. [Moscow Petroleum Institute]. Methods of Appraising Labor Productivity in Oil Well Drilling 37

The author discusses the two basic methods for estimating labor productivity: 1) according to natural output, and 2) according to production costs. He rejects the latter method as unsuited for drilling, since drilling involves indefinite periods of time. He reviews other methods for estimating labor productivity, for which he considers two conditions essential: 1) proper understanding of the produced item, and 2) understanding of labor expenditure in standard units of time. The basic elements in well drilling are production casing, erection of derricks, and installation of drilling equipment. These operations can, in his opinion, be easily estimated according to a) footage drilled, b) the erection and hauling of derricks, c) the erection and dismantling of rigs. He produces a table listing the output of a derrick-erecting crew at the Tuymazyburneft' (Tuymazy Oil Drilling) Trust, and states that the assembling of drilling equipment can be estimated in a similar manner. Finally he cites the records attained by drilling enterprises during the Fourth and Fifth Five-Year Plan periods and notes that labor productivity of drill-

serially-produced bits vary considerably even in horizons of the same type and disagrees with the prevailing opinion that they depend upon the nature of the rocks. He notes the 1955 analysis conducted by UfNII at the Tuymazy Oil Drilling Trust on the per bit footage of 15,000 standard bits. Tables gave data for each horizon and indicated the output of pumps and loading of bits. The result of the tests suggested the use of the following indicators for determining the time when the bit was raised from the bottom-hole in every horizon: 1) penetration per bit; 2) time of the efficient use of a bit at the bottom-hole; 3) final mechanical drilling speed per bit tip. The author cites foreign data (C. E. Williams and G. H. Burns) indicating that the flushing operation may be reduced by other means, such as by rotating the drill pipe during flushing. He considers the power and momentum of the turbodrill particularly important since smooth delivery depends upon it.

Zhigach, K. F., L. K. Mukhin, V. N. Demishev, and N. N. Goncharov [Moscow Petroleum Institute]. Petroleum-Base Drilling Fluids 92

Card 6/16

KUVYKIN, S.I.; KAGARMANOV, N.F.

Results of testing diamond bits in drilling small-diameter wells in Bashkiria. Neft. khoz. 38 no.4:31-37 Ap '60. (MIRA 14:8)

(Bashkiria—Rock drills—Testing)

KUVYKIN, Stepan Ivanovich; KAGARMANOV, Nurulla Faritovich; SULTANOVA, R.T., red.; RAKHMATULLINA, R.Kh., tekhn. red.

[Diamond drilling of oil wells] Almaznoe burenie neftianykh skvazhin. Ufa, Bashkirskoe knizhnoe izd-vo, 1962. 103 p. (MIRA 16:4)

(Oil well drilling)

MUVYKIN, S.I., KAGARMANOV, N.F., BALANDIN, F.D.

Diamond bits for drilling oil and gas wells. Izv. vys. ucheb. zav.; neft' i gaz 5 no.11:119-120 '62. (MIRA 17:6)

BALANDIN, P.S.; GORLOV, I.A.; KAGARMANOV, N.F.; POBEDONOSTSEV, V.S.; TUYEV, D.D.; KHAMZIN, Sh.Kh.

Core recovering from the producing layer D[illegible] in the Tuymazy field. Neft. khoz. 40 no.5:59-62 My '62. (MIRA 15:9)
(Tuymazy region--Core drilling)

[illegible]IN, [illegible]; KAGANMANOV, A.S., [illegible]ANDIN, V.F.

Diamond drilling of the oil and gas wells of BooKairin. Neft.khoz.
41 no.10:8-15 O '63. (MIRA 17:4)

KAGARMANOV, N.F.; BALANDIN, P.S.; RAZSKAZOVA, S.F.

Investigating the physicomechanical properties of Yakut diamonds in connection with their use in the reinforcement of drilling bits. Mash. i neft. obor. no.2:11-15 '65. (MIRA 18:6)

1. Ufimskiy neftyanoy nauchno-issledovatel'skiy institut.

KUVYKIN, S.I.; KAGARMANOV, N.F.

Mechanism of the disintegration of rocks and planning the conditions for diamond drilling. Neft. khoz. 43 no.1:12-18 Ja '65.
(MIRA 18:3)

BALANDIN, P.S.; BIISHEV, A.G.; KAGARMANOV, N.F.; POBEDONOSTSEV, V.S.; KHAMZIN, Sh.Kh.

Core recovery from producing horizons using DKNU "Ufimets" core assemblies. Burenie no.1:20-24 '64. (MIRA 18:5)

1. Ufimskiy neftyanoy nauchno-issledovatel'skiy institut.

VORONIN, I.S.; KIRSHANSKIY, I.I.; [illegible], S.T.; BEVZLIN, Ya.Z.; SARSEMBAYEV, A.S.; KAGARMANOV, O.Kh.

Introduction of the zinc condensation process in the electrothermal treatment of silver foam. TSvet. met. 38 no.2:18-24 F '65.
(MIRA 18:3)

KORSHUNSKIY, I.L.; PUGANKOV, O.Ye.

Preparation of copper concentrates for converter processing.
Tsvet. met. 38 no.4:22-27 Ap '65. (MIRA 18:5)

B/137/62/000/001/216/237
A154/A101

AUTHORS: Stanevich, V. V., Kagarmanova, V. M.

TITLE: Assaying-spectral determination of bismuth in the raw material and semiproducts of lead production

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 1, 1962, 1 - 2, abstract 1K5 ("Metallurg. i khim. prom-st' Kazakhstana. Nauchno-tekhn. sb.", 1961, no. 1 (11), 48 - 49).

TEXT: An assaying-spectral method was developed for determining Bi in Pb concentrates, agglomerate, dust, smelting-furnace slags in Pb-Zn production, dross, dry alkaline melts and reverberatory-furnace slags. The method is based on the ability of Pb to collect noble metals and Bi. Crude lead, obtained by assaying melting of samples without litharge and with the corresponding charge, was subjected to spectral analysis. The melting was carried out at 900 - 1,000°C for 25 - 30 min. The crude lead was cast in the form of electrodes. An ИСП -22 (ISP-22) spectrograph and a ПС -39 (PS-39) arc generator or a ДГ-1 (DG-1) with an interrupter were used. The analysis was carried out by the three-standards method. The analytical pairs of lines were: Bi - 3,067.7 and Pb - 3,118.9 for

Card 1/2